



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,920	06/20/2006	Michael J. Sailor	0321.68811	5068
24978 7590 12/03/2008 GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606			EXAMINER LUNDGREN, JEFFREY S	
			ART UNIT 1639	PAPER NUMBER
			MAIL DATE 12/03/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,920	Applicant(s) SAILOR ET AL.	
	Examiner JEFFREY S. LUNDGREN	Art Unit 1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2008.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 19-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 and 34-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/20/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1639

DETAILED ACTION

Election of Invention

Applicant's election without traverse of Group II, claims 10-18 and 34-43, in the Response to Restriction filed on August 1, 2008, is acknowledged.

Claims 1-43 are pending in the instant application; claims 1-9 and 19-33 are withdrawn from consideration as being directed to a non-elected invention; claims 10-18 and 34-43 are the subject of the Office Action below.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on June 20, 2006, has been considered by the Examiner. The submission is in compliance with the provisions of 37 CFR § 1.97. Enclosed with this Office Action is a return copy of the Form PTO-1449 with the Examiner's initials and signature indicating those references that have been considered.

Change in the Title of the Application

The title of the instant Application has been changed to "Optically encoded particles through porosity variation." See MPEP § 606.01.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is indefinite for reciting a "method-like" limitation that does not further limit the claim directed towards the particle (*i.e.*, the particle "used an assay detection method including a step of detecting a spectral shift").

Claims 15 and 40 are indefinite for reciting "receptor for a gaseous analyte" because one of ordinary skill in the art could not reasonably determine the meets and bounds of this

Art Unit: 1639

limitation. Applicants' specification appears to suggest that the term receptor means "a molecule that binds or associates with the analyte" – see page 8, first full paragraph.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 10-18 and 34-43 are anticipated by Trau:

Claims 10-18 and 34-43 are rejected under 35 U.S.C. 102(a/e) as being anticipated by Trau *et al.*, U.S. Patent Appl. Publication No. 2003/0124564 A1, published on July 3, 2003.

Claim 10 is directed towards an optically encoded particle, comprising a thin film in which porosity varies according to one of a library of computer controlled waveforms in a manner to produce a one of a library of codes detectable in the reflectivity spectrum.

Trau teaches highly functionalized, porous organosilica particles and methods of their synthesis are described that employ high amounts of functional silane such as 3-mercaptopropyl trimethoxysilane. Silane particle diameters are controlled from less than 1 μm to over 100 μm . The particles have a high surface area due to their advantageous internal structures, which consist of large pores, typically up to 10 μm that are linked by small channels of typically about 20 nm diameter.

Trau states:

"In a preferred embodiment, multiple, for example, six, different types of ***particles are made***, each having a different thickness of optic coating. During use, the six types are ***distinguished on the basis of scattering***

Art Unit: 1639

signals, despite their having the same fluorescent inner regions. This technique is particularly *desirable for use in combinatorial chemistry* as it provides another factor for distinguishing particle types. The technique of using light scattering for distinguishing different particle types is facilitated by the high porosity of the particles. *In a preferred embodiment, the difference in refractive index, more specifically the refractive index profile (e.g. generated by the varying porosity within each particle), gives rise to a unique scattering signature from each particle.*”

Trau, paragraph 0091 (emphasis added). Accordingly, claims 10, 34-36 and 43 are anticipated.

As in claims 17 and 42, Trau teaches that the particles are silica and have silica films (see Abstract and paragraphs 0015 and 0220). As in claim 18, Trau teaches that the particles are “micron-sized” (paragraph 0094). As in claims 12, 13, 14, 37, 38 and 39, Trau teaches DNA receptors and analytes, as well as others (paragraph 0019) – Applicants’ specification appears to suggest that the term receptor means “a molecule that binds or associates with the analyte” – see page 8, first full paragraph.

Regarding claims 15 and 40, the limitation of the “receptor for a gaseous analyte” reads on the polystyrene of the polystyrene particles of Trau that are sensitive/swell in the presence of certain organic solvents, such as acetonitrile (see paragraphs 0006 and 0186). It is irrelevant that Applicants have an intended use for the receptor since anticipation of a product claim does not necessarily relate to any of the methods of use.

Conclusions

No claim is allowable.

If Applicants should amend the claims, a complete and responsive reply will clearly identify where support can be found in the disclosure for each amendment. Applicants should point to the page and line numbers of the application corresponding to each amendment, and provide any statements that might help to identify support for the claimed invention (e.g., if the amendment is not supported *in ipsis verbis*, clarification on the record may be helpful). Should

Art Unit: 1639

Applicants present new claims, Applicants should clearly identify where support can be found in the disclosure.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Jeff Lundgren whose telephone number is 571-272-5541. The Examiner can normally be reached from 7:00 AM to 5:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Christopher Low, can be reached on 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jeffrey S. Lundgren/

Patent Examiner, Art Unit 1639